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H. P. DUEY

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TOOTHBRUSH

Filed April 5, 1932

Fig. 1.

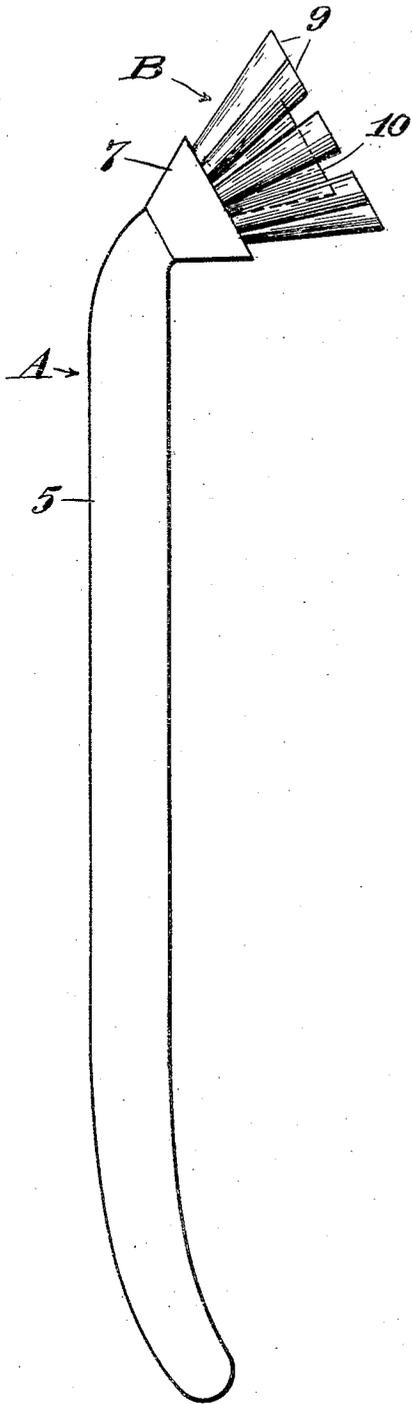


Fig. 2.

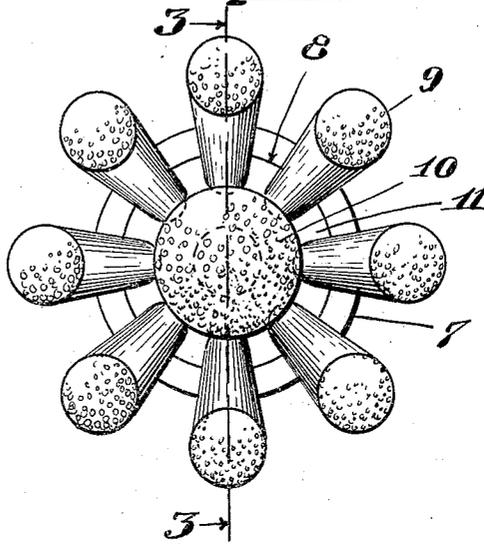
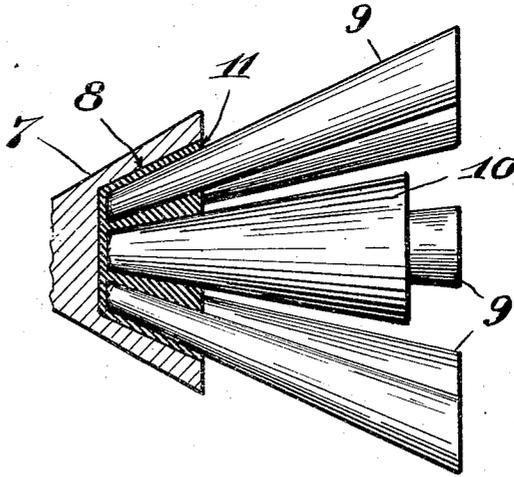


Fig. 3.



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TOOTHBRUSH

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This invention relates to a tooth brush and has as its primary object the provision of a tooth brush which is so shaped as to facilitate cleansing of the teeth by manipulation of the brush with a rotary movement.

Another object is to provide a tooth brush embodying bristles the outer ends of which are so arranged as to impart to the brush end a general circular outline with the central portion thereof recessed relative to the marginal portion whereby the bristle ends may be readily caused to effect a brushing action on the irregular contours of the teeth and permit the marginal bristles being worked into the recesses or spaces between adjacent teeth.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts, and in the combination, construction and arrangement of parts hereinafter described and claimed and illustrated by way of example in the accompanying drawing, in which:

Fig. 1 is a view of the tooth brush as seen in side elevation;

Fig. 2 is a plan view of the outer end of the brush head;

Fig. 3 is a cross sectional view of the brush head as seen on the line 3—3 of Fig. 2, with parts shown in elevation.

Referring to the drawing more specifically, A indicates generally the brush handle and B designates the brush head. The handle A embodies a shank 5, which may be of any suitable construction, but has one end thereof bent to extend at an angle relative to the general length of the shank, which bent end portion terminates in a frusto-conical shell 7, the reduced end portion of which leads from the end of the curved portion of the shank with the axis of the shell extending at an obtuse angle relative to the general length of the shank. The outer end of the shell 7 is open and affords a recess 8 for the reception of bristles constituting the brush head B. The shell 7 is preferably formed integral with the shank 5.

In carrying out the invention, the brush head B is formed with a series of individual

tufts 9 of bristles disposed in an annular arrangement so as to impart to the brush head a general circular form at the outer ends of the tufts 9. The tufts 9 are each of substantially circular cross section and preferably terminate at their outer ends on a common plane, as here shown, but may be formed of any suitable contour. The individual tufts 9 are formed with the bristles thereof close together so as to render the tufts compact, and the tufts are arranged with adjacent tufts spaced apart throughout the lengths thereof a distance approximately corresponding to the end diameters of the tufts, thus affording a well defined clearance between the tufts which will permit of ready lateral flexing of the bristles and also provide space which will facilitate cleansing of the brush.

A feature of the invention resides in the provision of a central tuft 10 of bristles of a length shorter than that of the tufts 9 and arranged with its outer end recessed relative to the outer ends of the tufts 9 so that the outer end portions of the latter will protrude beyond the outer end of the tuft 10, as particularly shown in Fig. 3. The outer ends of the central tuft 10 is here shown as flat but may be of any desired contour. The inner ends of the tufts 9 and 10 are carried in the shell 7 and are secured in place therein in any suitable manner, being here shown as embedded in a hardened plastic material 11. The tufts 9 and 10 are substantially frusto-conical in form, arranged with their enlarged end portions outermost, and the tufts 9 are disposed in angular relation to the axis of the central tuft 10 with the inner side portions of the tufts 9 spaced from the tuft 10, thus imparting a general frusto-conical form to the brush head. A well defined gap is afforded between the periphery of the central tuft 10 and the adjacent tufts 9 so as to permit lateral flexing of the bristles of the central tuft independent of the bristles of the outer tufts 9.

The central tuft 10 is preferably formed with its outer end of larger diameter than the outer ends of the tufts 9, and by reason of the bristles thereof being shorter in length

than those forming the outer tufts is more resistant to bending than the latter. In other words, the bristles of the outer tufts are more subject to flexure than those of the central tuft.

By the provision of the recessed central tuft 10 with the outwardly inclined tufts 9 spaced therearound the outer ends of the bristles of the brush head are adapted to effect a brushing action on the convex surfaces of the teeth and the protruding outer end portions of the tufts 9 are adapted to be readily projected into the crevices or recesses between adjacent teeth by reason of their outer ends protruding beyond the outer ends of the bristles of the central tuft 10.

Furthermore, the ends of the bristles of the central tuft 10 being recessed relative to the outer ends of the tufts 9 and the latter being inclined outwardly permits spreading or splaying of the outer bristle relative to the central tuft without effecting excessive bending of the bristles of the central tuft, thereby increasing the durability of the brush.

I claim:

1. In a tooth brush, a brush head comprising a central tuft of bristles, and an annular arrangement of spaced individual tufts of bristles encircling said central tuft and protruding at their outer ends beyond the outer end of said central tuft.

2. In a tooth brush, a brush head comprising a central tuft of bristles, and an annular arrangement of tufts of bristles encircling said central tuft and protruding at their outer ends beyond the outer end of said central tuft, said annular arrangement of tufts being spaced from said central tuft to form a gap therebetween.

3. In a tooth brush, a brush head comprising a central tuft of bristles, and an annular arrangement of tufts of bristles encircling said central tuft and protruding at their outer ends beyond the outer end of said central tuft, the tufts of said annular arrangement being inclined outwardly and being spaced from said central tuft to form a gap therebetween.

4. In a tooth brush, a brush head comprising a central tuft of bristles, and a series of spaced tufts of bristles disposed in annular arrangement around said central tuft and spaced therefrom to form a gap between said central tuft and said series of spaced tufts, said series of tufts being formed of bristles exceeding the length of those forming the central tuft with and having their outer ends protruding beyond the outer ends of the central tuft to render the bristles of said annular arrangement of tufts more subject to bending than those of the central tuft.

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